PRODUCT SELECTION GUIDE

SAMSUNG

SEMICONDUCTOR

February 1994

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Mask ROMs

Density	Part Number	Org.	Speed (ns)	Technology	Features	Packages
256K	KM23C256	32Kx8	120/150	CMOS		28-DIP (32 SOIC)
512K	KM23C512	64Kx8	120/150	CMOS		28-DIP (32 SOIC)
1M	KM23C1000	128K x 8	120/150	CMOS	Programmable CE	28-DIP
	KM23C1010	128K x 8	120/150	CMOS	Programmable CE & OE	32-DIP (32 SOIC)
2M	KM23C2000A	256K x 8	100/120/150	CMOS	Programmable CE & OE	32-DIP (32 SOOI)
	KM23C2100A	256K x 8	100/120/150	CMOS	Programmable CE & OE Word/Byte Mode	40-DIP
4M	KM23C4000B	512K x 8	100/120/150	CMOS	Programmable CE & OE	32-DIP (32 SOIC)
	KM23C4100B	256K x 16	100/120/150	CMOS	Programmable CE & OE	40-DIP (40 SOIC)
	KM23C4200B	256Kx16	120/150	CMOS	JEDEC Pinout	40-DIP
	KM23C4000C	512Kx8	100/120/150	CMOS	Programmable CE & OE	32-DIP (32 SOIC)
	KM23C4100C	512Kx16	100/120/150	CMOS	Programmable CE & OE	40-DIP (32-SOIC)
8M	KM23C8000C	1 M x 8	100/120/150	CMOS	Programmable CE & OE	32-DIP (32-SOP)
	KM23C8005C	1Mx8	100/120/150	CMOS	Page Mode 50ns	32-DIP (32-SOIC)
	KM23C8100C	512 x 16	100/120/150	CMOS	Programmable CE & OE Word/Byte Mode	42-DIP (44 SOIC)
	KM23C8105C	512K x 16	100/120/150	CMOS	Programmable CE & OE Page Mode, 50 ns	42-DIP (44 SOIC)
16M	KM23C16100B	2M x 8/	120/150	CMOS	Programmable CE & OE	36-DIP
	KM23C16000B	1M x 16	120/150		Word/Byte Mode	42-DIP (44-SOIC)
	KM23C16005B	1M x 16	120/150	CMOS	Programmable CE & OE Page Mode 50ns	42-DIP (44-SOIC)
	KM23C16100C	2Mx8	120/150	CMOS	Programmable CE & OE Word/Byte Mode	42-DIP (44-SOIC)
32M	KM23C32000	2M x 16	150/200	CMOS	Programmable CE & OE Word/Byte Mode	42 DIP
	KM23C32000G	2Mx16	150/200	CMOS	Programmable CE & OE Word/Byte Mode	44-SOIC
	KM23C32005	2Mx16	150/200	CMOS	Programmable CE & OE Page Mode 70ns	42-DIP
	KM23C32005G	2Mx16	150/200	CMOS	Page Mode 70ns	44-SOIC
	KM23C32000A	2M x 16	150/200	CMOS	Programmable CE & OE Word/Byte Mode	42 DIP
	KM23C32000AG	2Mx16	150/200	CMOS	Programmable CE & OE Word/Byte Mode	44-SOIC
	KM23C32005A	2Mx16	150/200	CMOS	Programmable CE & OE Page Mode 50ns	42-DIP
	KM23C32005AG	2Mx16	150/200	CMOS	Programmable CE & OE Page Mode 50ns	44-SOIC
64M	KM23C64000G	4M x 16	150/200	CMOS	Programmable CE & OE	44-SOIC

3-VOLT MASK ROMs

Density	Part Number	Org.	Speed (ns)	Technology	Features	Packages
4M	KM23V4000B	512K x 8	200/250	CMOS		32-DIP (32-SOIC)
	KM23V4100B	256K x 16	200/250	CMOS		40-DIP
8M	KM23V8000B	1M x 8	200/250	CMOS		32-DIP (32-SOIC)
	KM23V8200B	512K x 16	200/250	CMOS		42-DIP (44-SOIC)
16M	KM23V16000A	1M x 16	200/250	CMOS		42-DIP (44-SOIC)

SAMSUNG SEMICONDUCTOR: AN OVERVIEW

Headquartered in San Jose, California, Samsung Semiconductor, Inc. is among the industry's fastest growing high-quality semiconductor manufacturers in the world, and is the world's leading producer of MOS memories*. Established in the U.S. in 1983, Samsung Semiconductor has utilized its expertise in CMOS and BiCMOS process technologies to broaden its product offering from memory products to include today, a full breadth of products. Samsung Semiconductor's focus on research and development coupled with the company's strict guidelines for quality assurance is evidence of its commitment to providing customers with state-of-the-art technology that will help them succeed in today's as well as tomorrow's markets. And across the entire product line, we have the unsurpassed quality that has won us the International Standards Organization's highest rating of quality—ISO9001.

Technology Firsts

1990 The first to ship commercial samples of a family of 16-megabit dynamic RAMs.

1992 The first to offer volume production quantities of 16-megabit dynamic RAMs.

1992 The first to introduce the industry's first 3.3-volt, 4-megabit SRAM, the fastest synchronous SRAM and the fastest 2-megabit VRAM, as well as the first word-wide 512-kilobit SRAM.

1993 The first to offer fully synchronous dynamic RAMS.

Product Lines

Dynamic Random Access Memory

Samsung is the world's largest supplier of dynamic RAM products, with a comprehensive product offering that includes 3.3-volt CMOS DRAMs and 16-megabit DRAMs. Samsung was the first with production quantities of the synchronous dynamic RAM shipped in 1993.

Static Random Access Memory

Static RAM offerings include a 1-megabit CMOS SRAM, the industry's first word-wide 512-kilobit fully static RAM, 1-megabit and 256-kilobit BiCMOS SRAM, and 1-megabit synchronous CMOS SRAMs.

Video Random Access Memory

Samsung entered the VRAM market in 1991 with 256-bit and 1-megabit devices. In the last year, Samsung added to this new family two 2-megabit VRAMs with access times of 60 nanoseconds making them the fastest VRAMs available.

Power Electronics

Samsung has a broad offering of Linear ICs, MOSFETs, and Bipolar Transistors for the control of power in motor control, power supplies, ballasts, computer and automotive applications.

Flash Memory

Samsung's 1-megabit FLASH memory devices were the industry's first to offer 128-byte sectoring. In early 1994 Samsung sampled the 16M Flash in the new NAND technology.

Microcontrollers

Samsung entered the commercial market in 1992 with a family of 4- and 8-bit microcontrollers, based on Zilog's SAM8 architecture.

PC Chip Sets

Samsung has recently entered the PC Chip Set market with system logic offerings that support 386SX and 486 class CPUs from the major suppliers. These highly integrated solutions enable the PC OEM features to compete effectively in this very competitive market. Future developments in the chip set product offering will encompass next generation CPUs, graphics, multimedia and I/O.

Additional Products

- ASICs
- EEPROMs
- RAM DACs
- Transistors
- Mask ROMs
- MOSFETs
- Linear ICs
- Liquid-Crystal Display Drivers

Research and Development

Samsung invests more than 15 percent of its total revenue in R&D, a greater percentage than is spent by many of the world's leading electronics companies. Samsung's semiconductor operations include six advanced R&D and manufacturing facilities worldwide. Samsung's major research and development efforts and high-volume production are performed in the Korean facilites located in Kiheung, Bucheon and Onyang.

Distribution

Samsung distributes its semiconductor products through various major distribution sales channels worldwide. (See listing on pages 24 - 25 of this booklet.)

Additional Information

Additional or updated information on Samsung products is available from:

Samsung Semiconductor, Inc.
Marketing Communications
3655 North First Street
San Jose, CA 95134-9969
1-800-446-2760
(408) 954-7000
FAX: (408) 954-7286

For ordering information or further assistance, please contact your nearest Samsung Sales Office, Sales Representative or Distributor listed on pages 22 - 25.

*Source: Dataquest, Inc. 1994

Dynamic RAMs

Size	Part Number	Width	Process	Speed (ns)	Features	Packaging DIP (P)*	SOJ (J)*	ZIP (Z)*	TSOP (T)*(V)*	Availability
1 Meg	KM41C1000C	1M x 1	CMOS	60, 70, 80	F. Page	18	20	20	20	Now
	KM41C1000CL	1M x 1	CMOS	60, 70, 80	F. Page	18	20	20	20	Now
	KM41C1002C	1M x 1	CMOS	60, 70, 80	St. Col.	18	20	20		Now
	KM44C256C	256K x 4	CMOS	60, 70, 80	F. Page	20	20	20	20	Now
	KM44C256CL	256K x 4	CMOS	60, 70, 80	F. Page	20	20	20	20	Now
	KM44C258C	256K x 4	CMOS	60, 70, 80	St. Col.	20	20	20		Now
4 Meg	KM41C4000B	4 Meg x 1	CMOS	60, 70, 80	F. Page	18	20	20	20	Now
	KM41C4000BL	4 Meg x 1	CMOS	60, 70, 80	F. Page	18	20	20	20	Now
	KM41C4002B	4 Meg x 1	CMOS	60, 70, 80	St. Col.	18	20	20	20	Now
	KM41V4000BL	4 Meg x 1	CMOS	70, 80, 100	F. Page, 3.3V	20	20	20	20	Now
	KM41V4000BLL	4 Meg x 1	CMOS	70, 80, 100	F. Page, 3.3V	20	20	20	20	Now
	KM44C1000B	1 Meg x 4	CMOS	60, 70, 80	F. Page	20	20	20	20	Now
	KM44C1000BL	1 Meg x 4	CMOS	60, 70, 80	F. Page	20	20	20	20	Now
	KM44C1002B	1 Meg x 4	CMOS	60, 70, 80	St. Col.	20	20	20	20	Now
	KM44C1003B	1 Meg x 4	CMOS	60, 70, 80	F.Page,Q-CAS		20		20	Now
	KM44V1000BL	1 Meg x 4	CMOS	70, 80	F. Page, 3.3V	20	20	20	20	Now
	KM44V1000BLL	1 Meg x 4	CMOS	70, 80	F. Page, 3.3V	20	20	20	20	Now
	KM416C256	256K x 16	CMOS	70, 80, 100	Page		40			Now
	KM418C256	256K x 18	CMOS	70, 80, 100	Page		40			Now
	KM48C512	512K x 8	CMOS	70, 80, 100	Page		28			Now
	KM49C512	512K x 9	CMOS	70, 80, 100	Page		28			Now
16 Meg	KM41C16000	16 Meg x 1	CMOS	60, 70, 80	F. Page 4K Ref.	24			24	Now
	KM41C16100	16 Meg x 1	CMOS	60, 70, 80	F. Page 2K Ref.	24			24	Now
	KM44C4000	4 Meg x 4	CMOS	60, 70, 80	F. Page 4K Ref.	24			24	Now
	KM44S4000A	4 Meg x 4	CMOS	66/100 MHz	Synch/Single Bk				44	3Q'94
	KM44S4020A	4 Meg x 4	CMOS	66/100 MHz	Synch/Single Bk				44	3Q'94
	KM44C4100	4 Meg x 4	CMOS	60, 70, 80	F. Page 2K Ref.	24			24	Now
	KM48C2000	2 Meg x 8	CMOS	60, 70, 80	F. Page		28		28	Now
	KM48S2000A	2 Meg x 8	CMOS	66/100 MHz	Synch./Single Bk			32	44	3Q'94
	KM48S2020A	2 Meg x 8	CMOS	66/100 MHz	Synch./Single Bk			32	44	3Q'94
	KM48V2000AL	2 Meg x 8	CMOS	70	F. Page, 3.3V		28		28	Now
	KM48V2000ALL	2 Meg x 8	CMOS	70	F. Page, 3.3V		28		28	Now
	KM416V1000AL	1 Meg x 16	CMOS	70	F. Page, 3.3V	20	20	20	20	Now
	KM416V1000ALL	1 Meg x 16	CMOS	70	F. Page, 3.3V	20	20	20	20	Now
	KM48SV2020AT-13	2 Meg x 8	CMOS	77MHz	Sync., 3.3V				44	2Q'94
	KM48SV2020AT-10	2 Meg x 8	CMOS	100MHz	Sync., 3.3V				44	2Q'94

***NOTE:** P = Plastic DIP, J = Plastic PLCC or SOJ, Z = Plastic ZIP, T - TSOP, V = TSOP-Reverse Bend (Example: KM44C256CLV-08 = 256K x 4 Low Power TSOP (Reverse) 80ns).

Video RAMs

Density	Part Number	Org.	Features	Access Time (ns)	SAM Cycle Time	Package
1 Meg	KM424C257J	256K x 4	Split Read/Write Transfer Block Write/Flash Write	RAM: 60/70/80 SAM: 18/20/20	20, 25, 25	28-PIN SOJ
	KM424C257Z	256K x 4		RAM: 60/70/80 SAM: 18/20/20	20, 25, 25	28-Pin ZIP
	KM428C128J	128K x 8		RAM: 60/70/80 SAM: 18/20/20	20, 25, 25	40-Pin SOJ
2 Meg	KM428C256J	256K x 8	Split Read/Write Transfer Block Write/Flash Write	RAM: 60/70/80 SAM: 15/17/20	18, 22, 25	40-Pin SOJ
	KM428C256T	256K x 8		RAM: 60/70/80 SAM: 15/17/20	18, 22, 25	40/44-Pin TSOP Type II
	KM428C257J	256K x 8	Hyper Page Mode/Stop Reg. Persistent Write Mask	RAM: 60/70/80 SAM: 15/17/20	18, 22, 25	40-Pin SOJ
	KM428C257T	256K x 8	Split Read/Write Transfer Block Write/Flash Write	RAM: 60/70/80 SAM: 15/17/20	18, 22, 25	40/44-Pin TSOP Type II

Dynamic RAM Modules (Fast Page Mode)

MBytes	Organization	Part Number	Access Time	Package	Comments
1	256K x 32	KMM532256C	60, 70, 80 ns	72-Pin SIMM	1.005" High
1	256K x 32	KMM532256CV	60, 70, 80 ns	72-Pin SIMM	.855" High
1	256K x 36	KMM536256C	70, 80 ns	72-Pin SIMM	1.005" High
1	256K x 36	KMM536256CG	70, 80 ns	72-Pin SIMM	Gold Finish
1	256K x 36	KMM536256W	70, 80, 100 ns	72-Pin SIMM	.650" High
2	512K x 32	KMM532512C	60, 70, 80 ns	72-Pin SIMM	
2	512K x 32	KMM532512CV	60, 70, 80 ns	72-Pin SIMM	
2	512K x 36	KMM536512C	70, 80 ns	72-Pin SIMM	
2	512K x 36	KMM536512CG	70, 80 ns	72-Pin SIMM	Gold Finish
2	512K x 36	KMM536512CH	70, 80 ns	72-Pin SIMM	36 Pin I/O Active (EO)
2	512K x 36	KMM536512W	70, 80 ns	72-Pin SIMM	.805" High, Double Side
2	512K x 40	KMM540512C	60, 70, 80 ns	72-Pin SIMM	
2	512K x 40	KMM540512CG	60, 70, 80 ns	72-Pin SIMM	Gold Finish
2	1M x 18	KMM5181000BN	60, 70, 80 ns	72-Pin SIMM	
4	1M x 32	KMM5321000B	60, 70, 80 ns	72-Pin SIMM	1.005" High, Double Side
4	1M x 32	KMM5321000BV	60, 70, 80 ns	72-Pin SIMM	.855" High, Single Side
4	1M x 32	KMM5321020BV	60, 70, 80 ns	72-Pin SIMM	Low Power
4	1M x 32	KMM5321000W	70, 80 100 ns	72-Pin SIMM	1.005" High, Single Side
4	1M x 33	KMM5331000B	60, 70, 80 ns	72-Pin SIMM	1.005" High, Double Side
4	1M x 33	KMM5331000BG	60, 70, 80 ns	72-Pin SIMM	Gold Finish
4	1M x 33	KMM5331000BV	60, 70, 80 ns	72-Pin SIMM	855" High, Single Side
4	1M x 33	KMM5331000BVG	60, 70, 80 ns	72-Pin SIMM	Gold Finish
4	1M x 33	KMM5331020BV	60, 70, 80 ns	72-Pin SIMM	Low Power
4	1M x 33	KMM5331020BVG	60, 70, 80 ns	72-Pin SIMM	Low Power, Gold Finish
4	1M x 36	KMM5361000B	60, 70, 80 ns	72-Pin SIMM	1.005" High, Double Side
4	1M x 36	KMM5361000B1	60, 70, 80 ns	72-Pin SIMM	1.005" High, Single Side
4	1M x 36	KMM5361000B2	60, 70, 80 ns	72-Pin SIMM	.850" High, Double Side
4	1M x 36	KMM5361003B/BG	60, 70, 80 ns	72-Pin SIMM	Quad case
4	1M x 36	KMM5361000BG	60, 70, 80 ns	72-Pin SIMM	Gold Finish
4	1M x 36	KMM5361000BV	60, 70, 80 ns	72-Pin SIMM	Single Side, 1.25"High
4	1M x 36	KMM5361000BVG	60, 70, 80 ns	72-Pin SIMM	Gold Finish
4	1M x 36	KMM5361020BV	60, 70, 80 ns	72-Pin SIMM	Low Power
4	1M x 36	KMM5361000BH	60, 70, 80 ns	72-Pin SIMM	36 Pin I/O, Active (OE)
4	1M x 36	KMM5361020BVG	60, 70, 80 ns	72-Pin SIMM	Low Power, Gold Finish
4	1M x 40	KMM5401000B	60, 70, 80 ns	72-Pin SIMM	
4	1M x 40	KMM5401000BG	60, 70, 80 ns	72-Pin SIMM	Gold Finish
4	4M x 8	KMM584000B	60, 70, 80 ns	30-Pin SIMM	
4	4M x 8	KMM584020B	60, 70, 80 ns	30-Pin SIMM	Low Power
4	4M x 8	KMM584100N	60, 70, 80 ns	30-Pin SIMM	16 Meg DRAMS - 2 Chip
4	1M x 9	KMM494010B	60, 70, 80 ns	30-Pin SIP	
4	4M x 9	KMM494000B	60, 70, 80 ns	30-Pin SIP	
4	4M x 9	KMM594000B	60, 70, 80 ns	30-Pin SIMM	
4	4M x 9	KMM594020B	60, 70, 80 ns	30-Pin SIMM	Low Power
4	4M x 9	KMM594100N	60, 70, 80 ns	30-Pin SIMM	16 Meg DRAMS - 3 Chip
8	2M x 32	KMM5322000B	60, 70, 80ns	72-Pin SIMM	1.25" High
8	2M x 32	KMM5322000BV	60, 70, 80 ns	72-Pin SIMM	1.005" High
8	2M x 32	KMM5322000BVG	60, 70, 80 ns	72-Pin SIMM	Gold Finish
8	2M x 32	KMM5322020BV	60, 70, 80 ns	72-Pin SIMM	Low Power
8	2M x 33	KMM5332000B	60, 70, 80 ns	72-Pin SIMM	1.25" High
8	2M x 33	KMM5332000BV	60, 70, 80 ns	72-Pin SIMM	1.005" High
8	2M x 33	KMM5332000BVG	60, 70, 80 ns	72-Pin SIMM	Gold Finish
8	2M x 33	KMM5332020BV	60, 70, 80 ns	72-Pin SIMM	Low Power
8	2M x 36	KMM53620003B/BG	60, 70, 80 ns	72-Pin SIMM	Quad case
8	2M x 36	KMM5362000B	60, 70, 80 ns	72-Pin SIMM	1.25" High
8	2M x 36	KMM5362000BG	60, 70, 80 ns	72-Pin SIMM	Gold Finish
8	2M x 36	KMM5362000B1/B2	60, 70, 80 ns	72-Pin SIMM	1.005" High
8	2M x 36	KMM5362000B1G/B2G	60, 70, 80 ns	72-Pin SIMM	Gold Finish
8	2M x 36	KMM5362000BH	60, 70, 80 ns	72-Pin SIMM	36 Pin I/O, Active (OE)
8	2M x 40	KMM5402000B	60, 70, 80 ns	72-Pin SIMM	

Continued

Dynamic RAM Modules (Fast Page Mode) Continued

MBytes	Organization	Part Number	Access Time	Package	Comments
8	2M x 40	KMM5402000BG	60, 70, 80 ns	72-Pin SIMM	Gold Finish
16	4M x 32	KMM5324000B	60, 70, 80 ns	72-Pin SIMM	
16	4M x 32	KMM5324020B	60, 70, 80 ns	72-Pin SIMM	Low Power
16	4M x 32	KMM5324100V	60, 70, 80 ns	72-Pin SIMM	16 Meg DRAMS
16	4M x 32	KMM5324100VG	60, 70, 80 ns	72-Pin SIMM	16 Meg DRAMS, Gold
16	4M x 33	KMM5334000B	60, 70, 80 ns	72-Pin SIMM	
16	4M x 33	KMM5334020B	60, 70, 80 ns	72-Pin SIMM	Low Power
16	4M x 33	KMM5334100	60, 70, 80 ns	72-Pin SIMM	16 Meg DRAMS
16	4M x 33	KMM5334100G	60, 70, 80 ns	72-Pin SIMM	16 Meg DRAMS, Gold
16	4M x 36	KMM5364000B	60, 70, 80 ns	72-Pin SIMM	SOJ DRAMS
16	4M x 36	KMM5364000H	60, 70, 80 ns	72-Pin SIMM	36 Pin I/O, Active (OE)
16	4M x 36	KMM5364020B	60, 70, 80 ns	72-Pin SIMM	Low Power
16	4M x 36	KMM5364100	60, 70, 80 ns	72-Pin SIMM	16 Meg DRAMS
16	4M x 36	KMM5364100T	60, 70, 80 ns	72-Pin SIMM	16 Meg TSOP DRAMS
16	4M x 36	KMM5364100H	60, 70, 80 ns	72-Pin SIMM	36 Pin I/O, Active (OE)
16	4M x 40	KMM5404100	60, 70, 80 ns	72-Pin SIMM	16 Meg -2K Refresh
16	4M x 40	KMM5404000	60, 70, 80 ns	72-Pin SIMM	16 Meg -4K Refresh
16	16M x 8	KMM4816110	60, 70, 80 ns	30-Pin SIP	16 Meg -2K Refresh
16	16M x 8	KMM5816100	60, 70, 80 ns	30-Pin SIMM	16 Meg -2K Refresh
16	16M x 8	KMM4816010	60, 70, 80 ns	30-Pin SIP	16 Meg -4K Refresh
16	16M x 8	KMM5816000	60, 70, 80 ns	30-Pin SIMM	16 Meg -4K Refresh
16	16M x 9	KMM4916110	60, 70, 80 ns	30-Pin SIP	16 Meg -2K Refresh
16	16M x 9	KMM5916100	60, 70, 80 ns	30-Pin SIMM	16 Meg -2K Refresh
16	16M x 9	KMM5916100T	60, 70, 80 ns	30-Pin SIMM	16 Meg -2K Ref. TSOP
16	16M x 9	KMM4916010	60, 70, 80 ns	30-Pin SIP	16 Meg -4K Refresh
16	16M x 9	KMM5916000	60, 70, 80 ns	30-Pin SIMM	16 Meg -4K Refresh
16	16M x 9	KMM5916000T	60, 70, 80 ns	30-Pin SIMM	16 Meg -4K Ref. TSOP
32	8M x 32	KMM5328100V	60, 70, 80 ns	72-Pin SIMM	16 Meg DRAMS
32	8M x 33	KMM5338100	60, 70, 80 ns	72-Pin SIMM	16 Meg DRAMS
32	8M x 36	KMM5368100	60, 70, 80 ns	72-Pin SIMM	16 Meg DRAMS
32	8M x 36	KMM5368000H	60, 70, 80 ns	72-Pin SIMM	36 Pin I/O, Active (OE)
32	8M x 36	KMM5368100H	60, 70, 80 ns	72-Pin SIMM	36 Pin I/O, Active (OE)
32	8M x 40	KMM5408000	60, 70, 80 ns	72-Pin SIMM	16 Meg DRAMS
32	8M x 40	KMM5408100	60, 70, 80 ns	72-Pin SIMM	16 Meg DRAMS

Static RAMs

Low Power Standard SRAMs

Size	Part Number	Width	Features	Access Times	Current					Packages			
					Standby		Data Retention			Pin	DIP	SOIC	TSOP
					70°C	25°C	70°C	40°C	25°C	(#)	(mils)	(mils)	(type)
256K	KM62256C	32K x 8		45,55, 70 ns	20µA	1µA	10µA	3µA	0.5µA	28	300, 600	330	I
512K	KM68512	64K x 8		55, 70 ns	20µA	1µA	10µA	3µA	0.5µA	32		525	I
1-Meg	KM681000B	128K x 8		45, 55, 70 ns	20µA	1µA	10µA	3µA	0.5µA	32	600	525	I
4-Meg	KM684000	512K x 8		45,55, 70 ns	20µA	1µA	10µA	3µA	0.5µA	32	600	525	II

Industrial Temperature Standard SRAMs

Size	Part Number	Width	Features	Access Times	Current					Packages			
					Standby		Data Retention			Pin	DIP	SOIC	TSOP
					85°C	25°C	85°C	40°C	25°C	(#)	(mils)	(mils)	(type)
256K	KM62256C-I	32K x 8	–40°C to +85°C	70, 100 ns	50µA	1µA	20µA	3µA	0.5µA	28	600	330	I
1-Meg	KM681000B-I	128K x 8	–40°C to +85°C	70, 100 ns	50µA	1µA	20µA	3µA	0.5µA	32	600	525	I
4-Meg	KM684000-I	512K x 8	–40°C to +85°C	70, 100 ns	50µA	1µA	20µA	3µA	0.5µA	32	600	525	II

Low-Voltage Standard SRAMs

Size	Part Number	Width	Features	Access Times	Current					Packages			
					Standby		Data Retention			Pin	DIP	SOIC	TSOP
					70°C	25°C	70°C	40°C	25°C	(#)	(mils)	(mils)	(type)
256K	KM62V256C	32K x 8	2.7V to 3.3V	70, 100 ns	10µA	0.5µA	10µA	3µA	0.5µA	28	300,600	330	I
1-Meg	KM68V1000B	128K x 8	2.7V to 3.3V	70, 100 ns	10µA	0.5µA	10µA	3µA	0.5µA	32	600	525	I
4-Meg	KM68V4000	512K x 8	2.7V to 3.3V	70, 100 ns	10µA	0.5µA	10µA	3µA	0.5µA	32	600	525	II

PCMCIA/JEIDA Standard SRAM Memory Cards

Size	Part Number	Width	Access Times	Features	Current		Packages
					Standby 70°C	Data Ret. 40°C	Card & Socket Standard
512KB	KMCJ616256	256K x 16	120, 150, 200 ns	Auxiliary Battery, Attribute Memory	300µA	12µA	PCMCIA 2.0/JEIDA 4.1, Type-I
1-Meg	KMCJ616512	512K x 16	120, 150, 200 ns	Auxiliary Battery, Attribute Memory	400µA	18µA	PCMCIA 2.0/JEIDA 4.1, Type-I
2-Meg	KMCJ6161000	1M x 16	120, 150, 200 ns	Auxiliary Battery, Attribute Memory	500µA	34µA	PCMCIA 2.0/JEIDA 4.1, Type-I
4-Meg	KMCJ6162000	2M x 16	120, 150, 200 ns	Auxiliary Battery, Attribute Memory			PCMCIA 2.0/JEIDA 4.1, Type-I

Static RAMs

High Speed 5.0V Asynchronous SRAMs

Size	Part Number	Width	Features	Pinout	Access Time (ns)									Packages					
					6	8	10	12	15	17	20	25	35	Pin (#)	DIP (mils)	SOJ (mils)	TSOP (type)	BGA	PLCC
256K	KM68B261A	32K x 8		Revolutionary	◆	◆								32		300			
	KM68B257A	32K x 8		Evolutionary		◆	◆	◆						28		300			
	KM68257C	32K x 8	Data Retention	Evolutionary					◆		◆	◆		28	300	300			
	KM64B261A	64K x 4	Output Enable	Revolutionary	◆	◆	◆							32		300			
	KM64B258A	64K x 4	Output Enable	Evolutionary		◆	◆	◆						28		300			
	KM64258C	64K x 4	Output Enable	Evolutionary					◆		◆	◆		28	300	300			
288K	KM69B258A	32K x 9	Parity Bit				◆	◆						32		300			
1-Meg	KM6161002	64K x 16	Word Wide	Revolutionary					◆	◆	◆	◆		44		400			
	KM68B1002	128K x 8		Revolutionary		◆	◆	◆						32		400			
	KM681002	128K x 8		Revolutionary					◆	◆	◆			32	400	400	II		
	KM681001	128K x 8		Evolutionary							◆	◆	◆	32	400	400			
	KM64B1003	256K x 4	Output Enable	Revolutionary		◆	◆	◆						32		400			
	KM641003	256K x 4	Output Enable	Revolutionary					◆	◆	◆			32	400	400	II		
	KM641001	256K x 4	Output Enable	Evolutionary							◆	◆	◆	28	400	400			
4-Meg	KM6164002	256K x 16	Word Wide	Revolutionary								◆	◆	44		400	II		
	KM684002	512K x 8		Revolutionary							◆	◆	◆	36		400	II		
	KM644002	1M x 4	Output Enable	Revolutionary							◆	◆	◆	32		400	II		

High-Speed 3.3V Asynchronous SRAMs

Size	Part Number	Width	Features	Pinout	Access Time (ns)									Packages					
					6	8	10	12	15	17	20	25	35	Pin (#)	DIP (mils)	SOJ (mils)	TSOP (type)	BGA	PLCC
256K	KM68V257B	32K x 8	3.0V to 3.6V	Evolutionary							◆	◆		28	300	300			
	KM68V257C	32K x 8	3.0V to 3.6V	Evolutionary					◆	◆	◆	◆		28	300	300			

Static RAMs

Synchronous SRAMs

3.3V Power PC and 68040 Microprocessor Cache SRAMs

Size	Part Number	Width	Access Type	Features	Data Bus Speed (MHz)					Pins	Package
					66	60	50	40	33		
576	KM718BV521	32K x 18	Synchronous Burst	Gated ADS, Parity		♦	♦			52	PLCC
1.2M	KM718BV91	64K x 18	Synchronous Burst	Gated ADS, Parity		♦	♦			52	PLCC
1M	KM732V90	32K x 32	Synchronous Pipelined Burst	Gated ADS	♦	♦	♦	♦	♦	100	PQFP

3.3V Pentium and i486 Microprocessor Cache SRAMs

Size	Part Number	Width	Access Type	Features	Data Bus Speed (MHz)					Pins	Package
					66	60	50	40	33		
576K	KM718BV587	32K X 18	Synchronous Burst	Gated ADS, Parity		♦	♦			52	PLCC
1.2M	KM718BV87	64K x 18	Synchronous Burst	Gated ADS, Parity		♦	♦			52	PLCC
	KM736BV87	32K x 36	Synchronous Burst	Gated ADS, Parity		♦	♦			100	PQFP
1M	KM732V86	32K x 32	Synchronous Pipelined Burst	Gated ADS	♦	♦	♦	♦	♦	100	PQFP

3.3V General RISC Microprocessor Cache SRAMs

Size	Part Number	Width	Access Type	Features	Data Bus Speed (MHz)							Pins	Package
					167	150	125	100	80	66	50		
1M	KM741006	256K x 4	Synchronous Pipelined	Separate I/O, 5V				♦	♦	♦	♦	36	SOJ
1.2M	KM718BV1002	64K x 18	Synchronous Pipelined		♦	♦	♦	♦				52	PLCC
	KM736BV1002	32K x 36	Synchronous Pipelined	User Configurable	♦	♦	♦	♦				119	PBGA

Pseudo Static RAMs

Capacity	Part Name	Org.	Speed (ns)	Features	Current		Package
					Active, mA Max	Standby μA Max	
1M	KM658128	128K x 8	80/100	Data Retention	70/60/50	200	32-SOP/DIP

EEPROMs

Serial EEPROMs

Capacity	Part Number	Organization	Speed(ns)	Technology	Features	Packages
2K bit	KM93C56	128 x 16	1MHz	CMOS	Self-timed	8-DIP/8-SOIC
	KM93C56V	128 x 16	1MHz	CMOS	Self-timed, 3V Supply	8-DIP/8-SOIC
4K bit	KM93C66	256 x 16	1MHz	CMOS	Selt-timed	8-DIP/8-SOIC
	KM93C66V	256 x 16	1MHz	CMOS	Selt-timed, 3V Supply	8-DIP/8-SOIC

Parallel EEPROM

64K bit	KM28C64B	8K x 8	150/200	CMOS	D-P, T-B,64B Pg.Md.	28-DIP/32-PLCC
	KM28C65B	8K x 8	150/200	CMOS	D-P, R/B	28-DIP/32 PLCC

NOTE: D-P: Data-Polling, R/B: Ready/Busy, T-B: Toggle Bit

Flash

Capacity	Part Number	Organization	Speed(ns)	Technology	Features	Packages
1M	KM29C010	128K x 8	100/120	CMOS	D-P, T-B 128B Page Mode	32-DIP/32-PLCC 32-TSOP
16M	KM29N16000	2M x 8	80	CMOS	256B Page Mode Serial I/O	44-TSOP

NOTE: D-P: Data-Polling, T-B: Toggle Bit

RAM DACs

Part Number	Description	Package	Comments
KDA0458PL-80	Triple 8-bit, 80 MHz	84-Pin PLCC	Internal Vref., 256 colors
KDA0458PL-110	Triple 8-bit, 110 MHz	84-Pin PLCC	Internal Vref., 256 colors
KDA0458PL-135	Triple 8-bit, 135 MHz	84-Pin PLCC	Internal Vref., 256 colors
KDA0476BCN-50	Triple 6-bit, 50 MHz	28-Pin DIP	External I ref., 256 colors
KDA0476BCN-66	Triple 6-bit, 66 MHz	28-Pin DIP	External I ref., 256 colors
KDA0476BCN-80	Triple 6-bit, 80 MHZ	28-Pin DIP	External I ref., 256 colors
KDA0476BPL-50I	Triple 6-bit, 50MHz	44-Pin PLCC	External I ref., 256 colors
KDA0476BPL-50V	Triple 6-bit, 50 MHz	44-Pin PLCC	External Vref., 256 colors
KDA0476BPL-66I	Triple 6-bit, 66 MHz	44-Pin PLCC	External I ref., 256 colors
KDA0476BPL-66V	Triple 6-bit, 66 MHz	44-Pin PLCC	External V ref., 256 colors
KDA0476BPL-80I	Triple 6-bit, 80 MHz	44-Pin PLCC	External I ref., 256 colors
KDA0476BPL-80V	Triple 6-bit, 80 MHZ	44-Pin PLCC	External V ref., 256 colors
KDA0478BPL-50I	Triple 8-bit, 50 MHz	44-Pin PLCC	External I ref., 256 colors
KDA0478BPL-50V	Triple 8-bit, 50 MHz	44-Pin PLCC	External V ref., 256 colors
KDA0478BPL-66I	Triple 8-bit, 66 MHz	44-Pin PLCC	External I ref., 256 colors
KDA0478BPL-66V	Triple 8-bit, 66 MHz	44-Pin PLCC	External V ref., 256 colors
KDA0478BPL-80I	Triple 8-bit, 80 MHz	44-Pin PLCC	External I ref., 256 colors
KDA0478BPL-80V	Triple 8-bit, 80 MHz	44-Pin PLCC	External V ref., 256 colors
KDA0478BPL-100I	Triple 8-bit, 100 MHz	44-Pin PLCC	External I ref., 256 colors
KDA0478BPL-100V	Triple 8-bit, 100 MHz	44-Pin PLCC	External V ref., 256 colors
KDA0478BPL-120I	Triple 8-bit, 120 MHz	44-Pin PLCC	External I ref., 256 colors
KDA0478BPL-120V	Triple 8-bit, 120 MHz	44-Pin PLCC	External V ref., 256 colors
KDA0491L-80	Triple 8-bit, 80 MHz	44-Pin PLCC	External Vref., 16M True color
KDA0491L-110	Triple 8-bit, 110 MHz	44-Pin PLCC	External Vref., 16M True color

Bipolar Transistors

Part Number	Competitor's Part Number	Description	Package
2N3904	2N3904	TR, NPN, GP, 60V	TO-92
2N3906	2N3906	TR, PNP, GP, 40V	TO-92
2N4401	2N4401	TR, NPN, GP, 60V	TO-92
2N4403	2N4403	TR, PNP, GP, 40V	TO-92
2N5087	2N5087	TR, PNP, AMP, 50V	TO-92
2N5088	2N5088	TR, NPN, AMP, 35V	TO-92
2N5551	2N5551	TR, NPN, AMP, 180V	TO-92
2N6515	2N6515	TR, NPN, HI VOLT, 250V	TO-92
KSE2955T	MJE2955T	TR, PNP, SWITCH, 60V, 10A	TO-220AB
KSE3055T	MJE3055T	TR, NPN, SWITCH, 60V, 10A	TO-220AB
KSH112-I	MJD112-1	TR, NPN, DARLINGTON, 100V, 1A	I-PACK
KSH112-TF	MJD112-T1	TR, NPN, DARLINGTON, 100V, 2A	D-PACK, T&R
KSH117-I	MJD117-1	TR, PNP, DARLINGTON, 100V, 2A	I-PACK

 NOTE: T&R: Tape & Reel; LL: Logic Level

Continued—

Bipolar Transistors (Continued)

Part Number	Competitor's Part Number	Description	Package
KSH117TF	MJD117-T1	TR, PNP, DARLINGTON, 100V, 2A	D-PACK, T&R
KSH122-I	MJD122-1	TR, NPN, DARLINGTON, 100V, 8A	I-PACK
KSH122-TF	MJD122-T1	TR, NPN, DARLINGTON, 100V, 8A	D-PACK, T&R
KSH127-I	MJD127-1	TR, PNP, DARLINGTON, 100V, 8A	I-PACK
KSH127-TF	MJD127-T1	TR, PNP, DARLINGTON, 100V, 8A	D-PACK, T&R
KSH2955-I	MJD2955-1	TR, PNP, GP, 60V, 10A	I-PACK
KSH2955-TF	MJD2955-T1	TR, PNP, GP, 60V, 10A	D-PACK, T&R
KSH29C-I	MJD29C-1	TR, NPN, GP, 100V, 1A	I-PACK
KSH29C-TF	MJD29C-T1	TR, NPN, GP, 100V, 1A	D-PACK, T&R
KSH3055-I	MJD3055-1	TR, NPN, GP, 60V, 10A	I-PACK
KSH3055-TF	MJD3055-T1	TR, NPN, GP, 60V, 10A	D-PACK, T&R
KSH30C-I	MJD30C-1	TR, PNP, GP, 100V, 1A	I-PACK
KSH30C-TF	MJD30C-T1	TR, PNP, GP, 100V, 1A	D-PACK, T&R
KSH44H11-I	MJD44H11-1	TR, NPN, GP, 80V, 8A	I-PACK
KSH44H11-TF	MJD44H11-T1	TR, NPN, GP, 80V, 8A	D-PACK, T&R
KSH45H11-I	MJD45H11-1	TR, PNP, GP, 80V, 8A	I-PACK
KSH45H11-TF	MJD45H11-T1	TR, PNP, GP, 80V, 8A	D-PACK, T&R
KSP06	MPSA06	TR, NPN, AMP, 80V, 0.5A	TO-92
KSP10	MPSH10	TR, NPN, VHF/UHF, 650MHz	TO-92
KSP13	MPSA13	TR, NPN, DARLINGTON, 30V, 0.5A	TO-92
KSP2222A	PN2222A	TR, NPN, GP, 75V, 0.6A	TO-92
KSP27	MPSA27	TR, NPN, DARLINGTON, 60V, 0.5A	TO-92
KSP2907A	PN2907A	TR, PNP, GP, 60V, 0.6A	TO-92
KSP42	MPSA42	TR, NPN, HI-V0LT, 300V, 0.5A	TO-92
KSP44	MPSA44	TR, NPN, HI-BOLT, 500V, 0.5A	TO-92
KSP56	MPSA56	TR, PNP, AMP, 80V, 0.5A	TO-92
KSP92	MPSA92	TR, PNP, HI-VOLT, 300V, 0.5A	TO-92
KST10-TF	MMBTH10-T1	TR, NPN, VHF/UHF, 650MHz	SOT-23, T&R
KST17-TF	MMBTH17-T1	TR, NPN, VHF/UHF, 800MHz	SOT-23, T&R
KST2222A-TF	MMBT2222A	TR, NPN, GP, 75V, 0.6A	SOT-23, T&R
KST2484-TF	MMBT2484-T1	TR, NPN, LOW NOISE, 60V	SOT-23, T&R
KST2907A-TF	MMBT2907A-T1	TR, PNP, GP, 60V, 0.6A	SOT-23, T&R
KST3904-TF	MMBT3904-T1	TR, NPN, GP, 60V, 0.2A	SOT-23, T&R
KST3906-TF	MMBT3906-T1	TR, PNP, GP, 40V, 0.2A	SOT-23, T&R
KST42-TF	MMBTA42-T1	TR, NPN, HI-VOLT, 300V, 0.5A	SOT-23, T&R
KST4401-TF	MMBT4401-T1	TR, NPN, SWITCH, 60V, 0.6A	SOT-23, T&R
KST4403-TF	MMBT4403-T1	TR, PNP, SWITCH, 40V, 0.6A	SOT-23, T&R
KST5401-TF	MMBT5401-T1	TR, PNP, HI-VOLT, 160V, 0.5A	SOT-23, T&R
KST5551-TF	MMBT5551-T1	TR, NPN, AMP, 160V, 0.6A	SOT-23, T&R
KST92-TF	MMBTA92-T1	TR, PNP, HI-VOLT, 300V, 0.5A	SOT-23, T&R
TIP122	TIP122	TR, NPN, DARLINGTON, 100V, 5A	TO-220AB

NOTE: T&R : Tape & Reel

Continued—

Bipolar Transistors (Continued)

Part Number	Competitor's Part Number	Description	Package
TIP127	TIP127	TR, PNP, DARLINGTON, 100V, 5A	TO-220AB
TIP29C	TIP29C	TR, NPN, SWITCH, 100V, 1A	TO-220AB
TIP30C	TIP30C	TR, PNP, SWITCH, 100V, 1A	TO-220AB
TIP41C	TIP41C	TR, NPN, SWITCH, 100V, 6A	TO-220AB
TIP42C	TIP42C	TR, PNP, SWITCH, 100V, 6A	TO-220AB
TIP SERIES	Other 'TIP Series" available as special order, call factory for details		

NOTE: T&R : Tape & Reel

MOSFETs

Part Nunber	Competitor's Part Number	Description	N/P Channel	Package
2N7000	2N7000	FET, 60V, 5.0R, 0.2A, 0.4W	N-CH	TO-92
IRF510	IRF510	FET, 100V, 0.54R, 5.6A, 43W	N-CH	TO-220
IRF520	IRF520	FET, 100V, 0.27R, 9.2A, 60W	N-CH	TO-220
IRF530	IRF530	FET, 100V, 0.16R, 14A, 77W	N-CH	TO-220
IRF540	IRF540	FET, 100V, 0.077R, 28A, 125W	N-CH	TO-220
IRF610	IRF610	FET, 200V, 1.50R, 3.3A, 43W	N-CH	TO-220
IRF624	IRF624	FET, 250V, 1.1R, 3.8A, 40W	N-CH	TO-220
IRF630	IRF630	FET, 200V, 0.4R, 9.0A, 75W	N-CH	TO-220
IRF640	IRF640	FET, 200V, 0.18R, 18.0A, 125W	N-CH	TO-220
IRF644	IRF644	FET, 250V, 0.28R, 14A, 125W,	N-CH	TO-220
IRF710	IRF710	FET, 400V, 3.6R, 2.0A, 36W,	N-CH	TO-220
IRF720	IRF720	FET, 400V, 1.8R, 3.3A, 50W,	N-CH	TO-220
IRF730	IRF730	FET, 400V, 1.0R, 5.5A, 75W,	N-CH	TO-220
IRF740	IRF740	FET, 400V, 0.55R, 10A, 125W,	N-CH	TO-220
IRF820	IRF820	FET, 500V, 3.0R, 2.5A, 50W,	N-CH	TO-220
IRF830	IRF830	FET, 500V, 1.5R, 4.5A, 75W,	N-CH	TO-220
IRF840	IRF840	FET, 500V, 0.85R, 8.0A, 125W,	N-CH	TO-220
IRF9510	IRF9510	FET, 100V, 1.2R, 3A, 20W,	P-CH	TO-220
IRF9520	IRF9520	FET, 100V, 0.6R, 6A, 40W,	P-CH	TO-220
IRF9530	IRF9530	FET, 100V, 0.30R, 12A, 75W,	P-CH	TO-220
IRF9540	IRF9540	FET, 100V, 0.2R, 19A, 12W,	P-CH	TO-220
IRF9610	IRF9610	FET, 200V, 0.30R, 1.75A, 20W,	P-CH	TO-220
IRF9620	IRF9620	FET, 200V, 0.15R, 3.5A, 40W	P-CH	TO-220 AB
IRF9630	IRF9630	FET, 200V, 0.80R, 6.5A, 75W,	P-CH	TO-220
IRF9640	IRF9640	FET, 200V, 0.5R, 11A, 125W,	P-CH	TO-220
IRF9Z10	IRF9Z10	FET, 50V, 0.50R, 4.7A, 20W,	P-CH	TO-220
IRF9Z20	IRF9Z20	FET, 50V, 0.28R, 9.7A, 40W,	P-CH	TO-220
IRF9Z30	IRF9Z30	FET, 50V, 0.14R, 18A, 74W,	P-CH	TO-220
IRFP150	IRFP150	FET, 100V, 0.055R, 40A, 150W,	N-CH	TO-3P
IRFP254	IRFP254	FET, 250V, 0.07R, 21A, 150W,	N-CH	TO-3P
IRFP350	IRFP350	FET, 400V, 0.3R, 15A, 150W	N-CH	TO-3P
IRFP450	IRFP450	FET, 500V, 0.4R, 14A, 180W	N-CH	TO-3P
IRFR010-TF	IRFR010-T1	FET, 50V, 0.20R, 8.2A, 25W,	N-CH	D-PACK, T&R
IRFR020-TF	IRFR020-T1	FET, 50V, 0.10R, 15A, 42W,	N-CH	D-PACK, T&R
IRFR110-TF	IRFR110-T1	FET, 100V, 054R, 4.7A, 25W	N-CH	D-PACK, T&R
IRFR120-TF	IRFR120-T1	FET, 100V, 0.27R, 8.4A, 500W	N-CH	D-PACK, T&R
IRFR210-TF	IRFR210-T1	FET, 200V, 1.5R, 2.7A, 25W	N-CH	D-PACK, T&R
IRFR220-TF	IRFR220-T1	FET, 200V, 0.80R, 4.8A, 42W	N-CH	D-PACK, T&R
IRFR310-TF	IRFR310-T1	FET, 400V, 3.6R, 1.8A	N-CH	D-PACK, T&R

 NOTE: T&R: Tape & Reel

Continued—

MOSFETs (Continued)

Part Number	Competitor's Part Number	Description	N/P Channel	Package
IRFR320-TF	IRFR320-T1	FET, 400V, 1.8R, 2.7A	N-CH	D-PACK, T&R
IRFR420-TF	IRFR420-T1	FET, 500V, 3.0R, 2.1A	N-CH	D-PACK, T&R
IRFR9010-TF	IRFR9010-T1	FET, 50V, 0.5R, 5.3A, 25W	P-CH	D-PACK, T&R
IRFR9020-TF	IRFR9020-T1	FET, 50V, 0.28R, 9.9A, 42W	P-CH	D-PACK, T&R
IRFR9110-TF	IRFR9110-T1	FET, 100V, 1.2R, 3.2A, 25W	P-CH	D-PACK, T&R
IRFR9120-TF	IRFR9120-T1	FET,100V, 0.60R, 5.9A, 42W	H	D-PACK, T&R
IRFR9210-TF	IRFR9210-T1	FET, 200V, 3.0R, 2.0A, 25W	P-CH	D-PACK, T&R
IRFR9220-TF	IRFR9220-T1	FET, 200V, 1.5R, 3.6A, 42W	P-CH	D-PACK, T&R
IRFS624	IRF11624	FET, 250V, 1.1R, 3.3A, 30W	N-CH	TO-220 Isolated
IRFS644	IRF11644	FET, 250V, 028R, 8.5A, 40W	N-CH	TO-220 Isolated
IRFS730	IRF1730	FET, 400V, 1.0R, 3.5A, 35W	N-CH	TO-220 Isolated
IRFS740	IRF1740	FET, 400V, 0.55R, 5.5A, 40W	N-CH	TO-220 Isolated
IRFS830	IRF1830	FET, 500V, 1.5R, 3A, 35W,	N-CH	TO-220 Isolated
IRFS9540	IRF19540	FET, 100V, 0.20R, 10.7A, 40W	P-CH	TO-220 Isolated
IRFS9640	IRF19640	FET, 200V, 0.50R, 6.2A, 40W	P-CH	TO-220 Isolated
IRFSZ34	IRF1Z34	FET, 60V, 0.05R, 18.7A, 35W	N-CH	TO-220 Isolated
IRFSZ44	IRF1Z44	FET, 60V, 0.028R, 34A, 65W	N-CH	TO-220 Isolated
IRFU010	IRFU010	FET, 50V, 0.20R, 8.2A, 25W	N-CH	I-PACK
IRFU020	IRFU020	FET, 50V, 0.10R, 15A, 42W	N-CH	I-PACK
IRFU110	IRFU110	FET, 100V, 0.54R, 4.7A, 25W	N-CH	I-PACK
IRFU120	IRFU120	FET, 100V, 0.27R, 8.4A, 50W	N-CH	I-PACK
IRFU210	IRFU210	FET, 200V, 1.5R, 2.7A, 25W	N-CH	I-PACK
IRFU220	IRFU220	FET, 200V, 0.80R, 4.8A, 42W	N-CH	I-PACK
IRFU310	IRF7310	FET, 400V, 3.6R, 1.8A	N-CH	I-PACK, T&R
IRFU320	IRFU320	FET, 400V, 1.8R, 2.7A	N-CH	I-PACK, T&R
IRFU420	IRFU420	FET, 500V, 3.0R, 2.1A	N-CH	I-PACK, T&R
IRFU9010	IRFU9010	FET, 50V, 0.5R, 5.3A, 25W	P-CH	I-PACK
IRFU9020	IRFU9020	FET, 50V, 0.28R, 9.9A, 42W	P-CH	I-PACK
IRFU9110	IRFU9110	FET, 100V, 1.2R, 3.2A, 25W	P-CH	I-PACK
IRFU9120	IRFU9120	FET, 100V, 0.60R, 5.9A, 42W	P-CH	I-PACK
IRFU9210	IRFU9210	FET, 200V, 3.0R, 2.0A, 25W	P-CH	I-PACK
IRFU9220	IRFU9220	FET, 200V, 1.5R, 3.6A, 42W	P-CH	I-PACK
IRFZ14	IRFZ14	FET, 0V, 0.20R, 10A, 26W	N-CH	TO-220AB
IRFZ24	IRFZ24	FET, 60V, 0.10R, 15A, 40WW	N-CH	TO-220AB
IRFZ34	IRFZ34	FET, 60V, 0.050R, 30A, 90W	N-CH	TO-220AB
IRFZ44	IRFZ44	FET, 60V, 0.028R, 36A, 160W	N-CH	TO-220AB
IRL510	IRL510	FET, 100V, 75R, 4A, 43W, LOGIC LEV.	N-CH	TO-220AB
IRL520	IRL520	FET, 100V, 0.40R, 7.9A, 60W, LOGIC LEV.	N-CH	TO-220AB
IRL530	IRL530	FET, 100V, 0.20R, 13A, 77W, LOGIC LEV.	N-CH	TO-220AB
IRL540	IRL540	FET, 100V, .11R, 24A, 125W, LOGIC LEV.	N-CH	TO-220AB
IRL610	IRL610	FET, 200V, 2.4R, 2A, 43W, LOGIC LEV.	N-CH	TO-220AB
IRL620	IRL620	FET, 200V, 1.20R, 4A, 40W, LOGIC LEV.	N-CH	TO-220AB
IRL630	IRL630	FET, 200V, 0.60R, 8A, 75W, LOGIC LEVEL	N-CH	TO-220AB
IRL640	IRL640	FET, 200V, 0.22R, 16A, 125W, LOGIC LEV.	N-CH	TO-220AB
IRLZ14	IRLZ14	FET, 60V, 0.30R, 7.8A, 36W, LOGIC LEV.	N-CH	TO-220AB
IRLZ24	IRLZ24	FET, 60V, 0.15R, 15A, 75W, LOGIC LEV.	N-CH	TO-220AB
IRLZ34	IRLZ34	FET, 60V, 0.07R, 25A, 90W, LOGIC LEV.	N-CH	TO-220AB
IRLZ44	IRLZ44	FET, 60V, 0.04R, 35A, 150W, LOGIC LEV.	N-CH	TO-220AB

NOTE: T&R: Tape & Reel

Continued—

MOSFETs *(Continued)*

Part Number	Competitor's Part Number	Description	N/P Channel	Package
SSD2002-TF	Si9942DY	FET, DUAL, 25V	N-CH,P-CH	8-SOP, T&R
SSD2003-TF	Si9956DY	FET, DUAL, 25V, 0.1R, 3.5A	N-CH	8-SOP, T&R
SSD2005-TF	Si9953DY	FET, DUAL, 20V, 0.25R, 2.3A	P-CH	8-SOP, T&R
SSD2007-TF	Si9959DY	FET, DUAL, 50V, 0.3R, 2.0A	N-CH	8-SOP, T&R
SSH10N70	IRFPC40	FET, 700V, 1.2R, 10A, 150W	N-CH	TO-3P
SSH20N50	IRFP460	FET, 500V, 0.30R, 20A, 150W	N-CH	TO-3P
SSH60N10		FET, 100V, 0.03R, 60A, 150W	N-CH	TO-3P
SSH6N80	IRFPE40	FET, 800V, 1.9R, 6.0A	N-CH	TO-3P
SSH7N90	IRFPE50	FET, 900V, 1.8R, 7.0A	N-CH	TO-3P
SSH11N90		FET, 900V, 1.1R, 11.0A	N-CH	TO-3P
SSP1N60	MTP1N60	FET, 600V, 12R, 1A, 50W	N-CH	TO-220AB
SSP2955	MTP2955	FET, 60V, 0.30R, 12A, 75W	P-CH	TO-220AB
SSP2N90	MTP2N90	FET, 900V, 8.0R, 2.0A	N-CH	TO-220AB
SSP3055	MTP3055	FET, 60V, 0.15R, 12A, 75W	N-CH	TO-220AB
SSP3055L	MTP3055L	FET, 60V, 0.184, 12A, 75W, LOGIC LEV.	N-CH	TO-220AB
SSP3N70		FET, 700V, 6.0R, 3.0A	N-CH	TO-220AB
SSP3N80	MTP3N80	FET, 800V, 6.0R, 3.0A	N-CH	TO-220AB
SSP3N90	STP3N90	FET, 900V, 4.5R, 3.0A	N-CH	TO-220AB
SSP4N60	VNS009D	FET, 600V, 3.0R, 4A, 75W	N-CH	TO-220AB
SSP4N70		FET, 700V, 3.5R, 4.0A	N-CH	TO-220AB
SSP4N80	MTP4N80E	FET, 800V, 3.5R, 4.0A	N-CH	TO-220AB
SSP4N90		FET, 900V, 4.5R, 4.0A	N-CH	TO-220AB
SSP60N06	IRFZ48	FET, 60V, 0.018R, 60A, 150W	N-CH	TO-220AB
SSP6N60	IRFBC42	FET, 600V, 1.8R, 6A, 125W	N-CH	TO-220AB
SSP6N60A	IRFBC40	FET, 600V, 1.2R, 6A, 125W	N-CH	TO-220AB
SSR1N60-TF		FET, 600V, 12R, 1.0A, 40W	N-CH	D-PACK, T&R
SSR2955-TF	MTD2955	FET, 60V, 0.30R, 12A, 42W	P-CH	D-PACK, T&R
SSR3055L-TF	MTD3055L	FET, 60V, 0.18R, 12A, 42W, LOGIC LEV.	N-CH	D-PACK, T&R
SSR3055-TF	MTD3055	FET, 60V, 0.15R, 12A, 42W	N-CH	D-PACK, T&R
SSS2N90		FET, 900V, 8.0R, 1.3A	N-CH	TO-220 Isolated
SSS3N70		FET, 700V, 6.0R, 1.6A	N-CH	TO-220 Isolated
SSS3N80		FET, 800V, 6.0R, 1.6A	N-CH	TO-220 Isolated
SSS3N90		FET, 900V, 4.5R, 1.7A	N-CH	TO-220 Isolated
SSS4N60		FET, 600V, 3.0R, 2.7A, 35W	N-CH	TO-220 Isolated
SSS4N70		FET, 700V, 3.5R, 2.1A	N-CH	TO-220 Isolated
SSS4N80	BUZ80FI	FET, 800V, 3.5R, 2.1A	N-CH	TO-220 Isolated
SSS4N90		FET, 900V, 4.5R, 4.0A	N-CH	TO-220 Isolated
SSS6N60		FET, 600V, 1.8R, 3.4A, 40W	N-CH	TO-220 Isolated
SSU1N60		FET, 600V, 12R, 1.0A, 50W	N-CH	I-PACK
SSU2955	MTD2955-1	FET, 60V, 0.30R, 12A, 42W	P-CH	I-PACK
SSU3055	MTD3055-1	FET, 60V, 0.15R, 12A, 42W	N-CH	I-PACK
SSU3055L	MTD3055L-1	FET, 60V, 0.18R, 12A, 42W	N-CH	I-PACK

NOTE: T&R: Tape & Reel; LL: Logic Level

Linear

Part Number	Competitor's Part Number	Description	Package
KA1458D-TF	MC1458CDT	IC, DUAL OP-AMP	8PSOP, T&R
KA1458N	MC1458CN	IC, DUAL OP-AMP	8PDIP
KA2209N	TA7376P	IC, DUAL POWER AMP, 0.9W	8PDIP
KA2657N	ULN2003	IC, HIGH VOL. & CURRENT DARLINGTON ARRAY	16DIP
KA2808D-TF	RV4145M	IC, GROUND FAULT INTERRUPTER	8SOIC, T&R
KA2808N	RV4145N	IC, GROUND FAULT INTERRUPTER	8PDIP
KA2901D-TF	LM2901D	IC, INDUSTRIAL QUAD DIFF. COMPARATOR	14SOP, T&R
KA2901N	LM2901N	IC, UNDUSTRIAL QUAD DIFF. COMPARATOR	14DIP
KA2902D-TF	LM2902D	IC, INDUSTRIAL QUAD OP AMP	14SOP, R&R
KA2902N	LM2902N	IC, INDUSTRIAL QUAD OP AMP	14DIP
KA2903D-TF	LM2903D	IC, INDUSTRIAL DUAL DIFF.COMPARATOR	8SOP, T&R
KA2903N	LM2903N	IC, INDUSTRIAL DUAL DIFF.COMPARATOR	8DIP
KA2904D-TF	LM2904D	IC, INDUSTRIAL QUAD OP AMP	8SOP, T&R
KA2904N	LM2904N	IC, INDUSTRIAL QUAD OP AMP	8DIP
KA317T	LM317T	IC, VOLT-REG. ADJUSTABLE, 1.5A	TO-220
KA319N	LM319N	IC, VOLTAGE COMPARATOR	14PDIP
KA324D-TF	LM324DT	IC, QUAD OP AMP	14PSOP, T&R
KA324N	LM324N	IC, QUAD OP AMP	14PDIP
KA339D-TF	LM339DT	IC, QUAD DIFF. COMPARATOR	14PSOP, T&R
KA339N	LM339N	IC, QUAD DIFF. COMPARATOR	14PDIP
KA34063AN	MC34063AN	IC, DC-TO-DC CONVERTER/CONTROL	8PDIP
KA3525AN	UC3525A	IC, REGULATOR PWM	16PDIP
KA358D-TF	LM358DT	IC, DUAL OP AMP	8PSOP, T&R
KA358N	LM358N	IC, DUAL OP AMP	8PDIP
KA386D-TF	LM386DT	IC, AUDIO AMP, 500MW	8PSOP, T&R
KA386N	LM386N	IC, AUDIO AMP, 500MW	8PDIP
KA3882N	UC3842B	IC, CURRENT MODE PWM	8PDIP
KA3883N	UC3843B	IC, CURRENT MODE PWM	8PDIP
KA3884N	UC3844B	IC, CURRENT MODE PWM	8PDIP
KA3885N	UC3845B	IC, CURRENT MODE PWM	8PDIP
KA393D-TF	LM393DT	IC, DUAL DIFF.COMPARATOR	8PSOP, T&R
KA393N	LM393N	IC, DUAL DIFF.COMPARATOR	8PDIP
KA431D-TF	KA431CDT	IC, VOLT-REG., ADJUST	8PSOP, T&R
KA431Z	KA431CZ	IC, VOLT-REG., ADJUST	TO-92
KA4558D-TF	MC4558CDT	IC, DUAL OP-AMP	8PSOP, T&R
KA4558N	MC4558CN	IC, DUAL OP-AMP	8PDIP
KA558N	558CN	IC, QUAD BIPOLAR TIMER	16PDIP
KA567N	LM567CN	IC, TONE DECODER, PLL	8PDIP
KA7500BN	TL494,UC494	IC, VOLTAGE MODE PWM	16DIP
KA7514AN		IC, 1% VREF. POWER FACTOR CORRECTION	8DIP
KA7524N		IC, POWER FACTOR CORRECTION	8DIP
KA76L05Z	MC76L05Z	IC, VOLT-REG., 100MA, +5V, 5%, LOW DROPOUT	TO-92

NOTE: T&R: Tape & Reel

Continued—

Linear *(Continued)*

Part Number	Competitor's Part Number	Description	Package
KA7805T	MC7805CT	IC, VOLT-REG.,1.0A, +5V, 4%	TO-220 AB
KA7808T	MC7808CT	IC, VOLT-REG, 1.0A, +8V, 4%	TO-220 AB
KA7812T	MC7812CT	IC, VOLT-REG, 1.0A, +12V, 4%	TO-220 AB
KA7815T	MC7815CT	IC, VOLT-REG., 1.0A, +15V, 4%	TO-220 AB
KA7824T	MC7824CT	IC, VOLT-REG., 1.0A, +24V, 4%	TO-220 AB
KA78L05AZ	MC78L05ACZ	IC, VOLT-REG., 100mA, +5V, 5%	TO-92
KA78L08AZ	MC78L08ACZ	IC, VOLT-REG., 100mA, +8V, 5%	TO-92
KA78L12AZ	MC78L12ACZ	IC, VOLT-REG., 100mA, +12V, 5%	TO-92
KA78L15AZ	MC78L15ACZ	IC, VOLT-REG., 100mA, +15V, 5%	TO-92
KA7905T	MC7905CT	IC, VOLT-REG., 1.0A, -5V, 4%	TO-220 AB
KA7908T	MC7908CT	IC, VOLT-REG., 1.0A, -8V, 4%	TO-220 AB
KA7912T	MC7912CT	IC, VOLT-REG., 1.0A, -12V, 4%	TO-220 AB
KA7915T	MC7915CT	IC, VOLT-REG., 1.0A, -15V, 4%	TO-220 AB
KA79L05AZ	MC79L05ACZ	IC, VOLT-REG., 100mA, -5V, 5%	TO-92
KS555D-TF	TLC555D	IC, SINGLE CMOS TIMER	8PSOP, T&R
KS555N	TLC555P	IC, SINGLE CMOS TIMER	8PDIP
KS556N	TLC556P	IC, DUAL CMOS TIMER	14PDIP
KS58006N	UM91210C	IC, TONE/PULSE DIALER	18PDIP (58C20)
KT8554N		IC, U-LAW 1 CHIP CODEC	16PDIP
KT8557N		IC, A-LAW 1 CHIP CODEC	16PDIP
KSV3110N-8	UVC3130	IC, 20 MHZ VIDEO A/D AND D/A	40 PDIP

NOTE: T&R: Tape & Reel

LCD Drivers

Part Number	Competitor's Part Number	Description	Package
KS0065Q2	HD44100	LCD, 40 SEG, DRIVER	60-QFP
KS0066F00	HD44780	LCD, 16COM, 40SEG, CHAR. CONTROLLER	80-QFP
KS0068F00		LCD, 16COM, 60SEG, CHAR. CONTROLLER	100-QFP
KS0070F00		LCD, 16COM, 80SEG, CHAR. CONTROLLER	128-QFP
KS0105Q	HD44105	LCD, 32 CHANNEL COMMON DRIVER	60-QFP
KS0106Q	HD44102	LCD, 50 CHANNEL SEGMENT DRIVER	100-QFP
KS0107Q	HD61203	LCD, 64 CHANNEL COMMON DRIVER	100-QFP
KS0108Q	HD61202	LCD, 64 CHANNEL SEGMENT DRIVER	100-QFP

System Logic Chip Sets

Part Number	Description	Package	Comment
KS82C388	Single Chip 386SX System Logic w/ Cache Controller.	208-Pin PQFP	Highly integrated, cost effective 386SX solution; integrated cache controller (up to 64K), memory controller (up to 16MB), and 82C206 peripheral controller; local bus support; up to 40MHz system support; 100% PC/AT compatible.
KS82C883	Two Chip 486 System Logic w/ Cache Controller	160-Pin PQFP	Cost effective, two chip (KS82C883 & 82C206) 100% PC/AT compatible 486 solution; supports 486 class and P24T CPUs up to 50MHz system clock; integrated high performance cache controller (up to 1MB); VESA local bus support.
KS82C884	Single Chip 486 System Logic w/ Cache Controller	208-Pin PQFP	Highly integrated, single chip 100% PC/AT compatible 486 solution; supports 486 class and P24T CPUs up to 50MHz system clock; integrated high performance cache controller (up to 1MB); up to 64MB system memory; integrated keyboard controller; VESA local bus support.
KS82C887	Integrated Data Buffers	64-Pin PQFP	Integrated data buffers supporting KS82C883 and KS82C884.
KS82C888	Integrated Address Buffers	64-Pin PQFP	Integrated address buffers supporting KS82C883 and KS82C884.
KS82C889	Local Bus Mastering Support	64-Pin PQFP	Local bus mastering support for KS82C883.

Miscellaneous Chip Sets

Part Number	Description	Package	Comment
KS83C206	Integrated Peripheral Controller	84-Pin PLCC 100-Pin PQFP	Two DRAM controllers, memory mapper, two interrupt controllers, one time/counter, and RTC. Fully PC/AT compatible.
KS82C400	PC/AT Keyboard Interface Controller	40-Pin DIP	PC/AT 8042 keyboard controller compatible; 6-10 MHz operation; supports AT standard command, code conversion, Gate A20, and System Reset.
KS82C401	PC/AT Keyboard Interface Controller	40-Pin DIP	Same as KS82C400B with added PS/2 mouse support and "green" features.

Microcontrollers

4-bit Microcontrollers

Part Number	ROM (x8)	RAM (x4)	VCC	Timers	Serial Port	A/D	Analog Comp	In	Out	I/O	Main Osc. MHz	Second Osc	Display Type	Display Size	Package	Other Features
KS1600	1K	64	2.7-3.3 4.5-5.5					8	16		0.4-1.0				30 SDIP/SH	
KS1700	.5K	32	2.7-3.3 4.5-5.5					5	10		0.4-1.0				20 DIP/SOP	
KS51800	1K	32	2.2-3.6					8	11		0.4-0.7				24 DIP/SK/SO	Pwr-on RST,4 freq
KS51900	.5K	32	2.7-3.3					5	9		0.4-0.7				20 DIP/SOP	Auto RST,3 freq
KS56C220	2K	256	2.7-6.0	BT,1-8bTC,WT				4	8	12	1.0-4.5	32,768	LCD	32x4	64QFP	12 LED pins
KS56C820	8K	512	2.7-6.0	BT,1-8bTC,WT	SIO			8	8	24	1.0-4.5	32,768	LCD	32x4	80 QFP	24 LED pins
KS56C1620	16K	512	2.7-6.0	BT,1-8bTC,WT	SIO			8	8	24	1.0-4.5	32,768	LCD	32x4	80QFP	24 LED pins
KS58C821	8K	5120	2.2-6.0	BT,1-8bTC,WT					4	16	90-1500k	32,768	LCD	60x9	100 QFP	16 LED pins
KS58C460B	4K	320	4.5-6.0	BT,2-8bTC	SIO		4-ch	8		44	2.0-4.5				64QFP/SDIP	32 LED pins
KS56C1660	16K	512	4.5-6.0	BT,2-8bTC	SIO		4-ch	8		44	2.0-4.5				64 QFP/SDIP	32 LED pins
KS56C1610	16K	512	2.7-6.0	BT,2-8bTC,WT	SIO			8	27	20	2.0-4.5	32,768	VFD	26pins	64 SDIP	14b PWM
KS56C450	4K	736	2.2-6.0	BT,2-8bTC				4	1	31	1.0-4.2				28DIP/42SDIP	DTMF Gen,4LED pins
KS56C401	4K	512	2.2-3.6	BT,2-8b TC				1		24	0.5-4.0				32 /SOP	
KS56C671	6K	512	4.5-6.0	BT,2-8bTC	SIO	4-ch			12	22	0.4-5.0		VFD	20pins	42SDIP/44QFP	
KS56C1270	12K	512	4.5-6.0	BT,2-8bTC	SIO	8-ch			25	30	0.4-5.0		VFD	25pins	64SDIP/QFP	
KS57C0002	2K	256	2.7-6.0	BT,8-8bTC,WT	SIO		4-ch	6		18	0.4-4.5				30SDIP/32SOP	8 LED pins
KS57C0108	8K	512	2.7-6.0	BT,2-8bTC,WT	SIO			4		32	0.4-4.5				42SDIP/44QFP	
KS57C2408	8K	512	2.7-6.0	BT,1-8bTC, 1-16bTC,WT	SIO	6-ch		10	12	28	0.4-4.5	32,768	LCD	24x4ß	80 QFP	
KS57C2016	16K	512	2.7--6.0	BT,1-8bTC 1-16bTC,WT	SIO			4	12	40	0.4-4.5	32,768	LCD	40x4	100 QFP	
KS57C2616	16K	736	2.7-6.0	BT,1-8bTC, 1-16btC,WT	SIO			4		35	0.4-4.5	32,768	LCD	56x16	100 QFP	
KS57C2202	2K	256	2.7-6.0	BT,2-8bTC,WT				2		15		32,768	LCD	32x4	64 QFP	Melody output
KS57C0208	8K	512	2.2-5.5	BT,2-8bTC,WT						18	0.4-4.5				24 SOP	
KS57C0302	2K	256	2.0-6.0	BT,2-8bTC,WT	SIO		4-ch			15	0.4-4.5				20DIP/SOP	
KS57C4004	4K	256	2.7-6.0	BT,1-8bTC,WT	SIO	4-ch		4		30	0.4-4.5				42SDIP/44QFP	8 LED pins
KS57C3016	16K	124	2.7-6.0	BT,2-8bTC,WT	SIO	4-ch		4	12	39	0.4-5.0	32,768	LCD	32x4	100 QFP	PLL,6-ch PWM
KS57C5016	16K	512	2.7-6.0	BT,2-8bTC,WT	SIO			4		51	0.4-4.5	32,768			64SDIP/QFP	DTMF Gen.

BT=Basic Timer, TC=Timer/Counter, WT-Watch Timer, SIO=Serial I/O, IT=Interval Timer, BupT=Backup Timer.

Microcontrollers

8-bit Microcontrollers

Part Number	ROM (x8)	RAM (x4)	VCC	Timers	Serial Port	A/D	Analog Comp	In	Out	I/O	Main Osc. MHz	Second Osc	Display Type	Display Size	Package	Other Features
KS88C0504	4K	238	4.0-6.0	1-IT						32	MHz				40 DIP	4 LED pins
KS88C0016	16K	272	4.5-5.5	2-8bTC,PWM, 2-16bTC,BupT	UART				8	46	1.0--20.0	32,768			64SDIP/QFP	64K ext. memory
KS88C3016	16K	281	4.0-6.0	2-8bTC,BupT	SIO	1-ch				30	5.0-10.0	32,768	OSD		64 SDIP	OSD, PWM
KS88C8016	16K	422	4.5-6.0	2-8bTC,1-16bTC, 1-20bTC	SIO	8-ch				40	1.0-12.0	32,768			80 QFP	2-24bPWM, VSync, 64K ext. memory
KS88C8032	32K	422	4.5-6.0	2-8bTC,2-26bTC	SIO	8-ch				40	1.0-12.0	32,768			80 QFP	2-14bPWM
KS88C4116	16K	1,095	4.5-6.0	2-8bTC, PWM, 2-16bTC,BupT	UART	8-ch		8	8	48	1.0-12.0	82,768			80 QFP	2-8bPWM, 64K ext. memory

BT=Basic Timer, TC=Timer/Counter, WT-Watch Timer, SIO=Serial I/O, IT=Interval Timer, BupT=Backup Timer.

Package Designators

DRAM

P : DIP
J : SOJ
Z : ZIP
T : TSOP II
TR : TSOP II Reverse
V : TSOP I
VR : TSOP I Reverse

DRAM MODULE

Blank : SOJ or PLCC
T : TSOP

Video RAM

P : DIP
J : SOJ
Z : ZIP
T : TSOP II
TR : TSOP II Reverse

SRAM

P : DIP
G : SOP
J : SOJ or PLCC
T : TSOP (Standard)
R : TSOP (Reverse)

EEPROM

Blank : DIP
G : SOIC
GD : SOIC Package, DIP Configuration
T : TSOP

Mask ROM

Blank : DIP
G : SOP
J : PLCC
FP : QFP

TRANSISTOR

H : D-Pack (KSHxxx)
I : I-Pack (KSHxxx-I)
P : TO-92 (KSPxxx)
T : SOT-23 (KSTxxx)

ASIC

Package families supported:

PLCC - 84L max
PQFP - 240L max
TQFP - 208L max
BGA - 357L max (Ball Grid Array)

LINEAR

D : SOP (SSDxxx)
H : TO-3P (SSHxxx)
N : Plastic DIP
P : TO-220AB (SSPxxx, IRFPxxx))
R : D-Pack (SSRxxx, IRFRxxx)
S : TO-220 Isolated (SSSxxx)
T : RO-220AB
U : I-Pack (SSUxxx, IRFUxxx)
Z : TO-92

KG60K Gate Array Features

- ◊ 0.8µm Double Metal CMOS Technology.
- ◊ Up to 200K usable gates (19 masterslices).
- ◊ 275ps typical gate delay (2input-NAND, FO=2).
- ◊ 3.4µW/gate/MHz power consumption.
- ◊ Up to 48mA single pad drive.
- ◊ 250MHz toggle frequency.
- ◊ Flexible power and ground locations.
- ◊ Slew rate controlled I/O buffers increase performance while decreasing switching noise.
- ◊ 3.3V operation (mixed I/O also available).
- ◊ Accurate delay calculation using 4 x 4 matrix.
  - Two dimensional table model for input slope and output loading effect.
  - Pin-to-pin delay.
  - Back annotation of layout capacitance and resistance.
- ◊ State dependent pin-to-pin delay.
- ◊ Clock drivers used in the clock skew management system.
  - Various high drive internal clock cells.
  - Automatic clock net distribution in layout design.
  - Automatic insertion of a Phase Locked Loop which allows interchip clock skew less than 0.1ns.
- ◊ Over 1500 I/O cells available.
- ◊ Compiled ROM, RAM, DPRAM, FIFO, Multiplier.
- ◊ JTAG boundry scan cells.
- ◊ Sign-off on Verilog, Mentor or Viewlogic.
- ◊ Over 2000V ESD protection (Human Body Model); Latch-up immunity of over 200mA.

KG50K PRODUCT FAMILY *(1.0 Micron)*

Device	Gate Counts		Total Pads
	Total	Usable	
KG5142	1455	582	52
KG5212	2106	842	60
KG5322	3212	1285	72
KG5412	4125	1650	80
KG5702	6996	2798	88
KG5103	10,400	4,160	120
KG5173	16,400	6,560	148
KG5203	20,552	8,221	164
KG5273	26,688	10,675	184
KG5433	43,011	17,204	232
KG5543	54,509	21,804	260
KG5673	67,569	27,028	288
KG5863	85,956	34,382	324
KG5104	103,000	41,200	352

KG60K PRODUCT FAMILY *(0.8 Micron)*

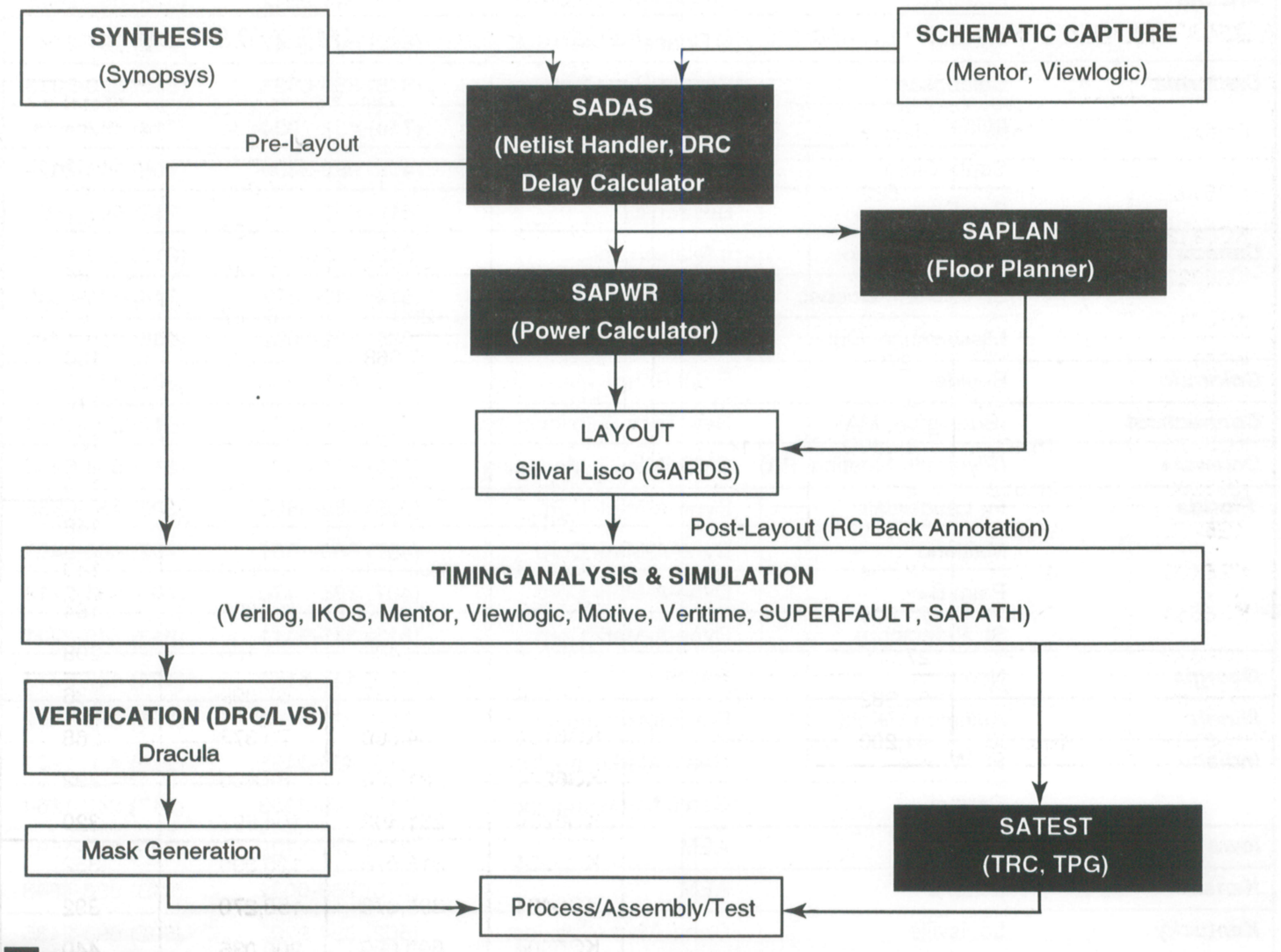
Device	Gate Counts		Total Pads
	Total	Usable	
KG6123	11,712	4,685	68
KG6153	14,770	5,908	76
KG6183	17,862	7,145	84
KG6213	20,818	8,327	90
KG6263	25,668	10,267	100
KG6313	30,674	12,270	110
KG6423	41,584	16,634	128
KG6483	47,916	19,166	136
KG6573	57,156	22,862	148
KG6653	65,001	26,000	160
KG6883	87,740	35,096	184
KG6114	110,400	44,160	208
KG6144	142,747	57,099	236
KG6184	184,688	73,875	268
KG6224	221,000	88,400	292
KG6264	261,492	104,597	320
KG6324	315,976	126,390	352
KG6404	395,676	158,270	392
KG6504	500,089	200,036	440

KG60K Gate Array

Design Kit Support

Design Step	Hardware	Software	Vendor	Remarks
Schematic and Simulation	Sun	Quick SIM	Mentor (V 8.2)	
		View SIM	Viewlogic	
		Verilog XL	Cadence	+Edge Schematic
	HP700	Quick SIM	Mentor (V 8.2)	
Fault_SIM	Sun	Super Fault	Samsung	
	HP 700			
ATPC	Sun	Super Fault	Samsung	
	HP 700			
Layout		Gards	Silvarlisco	
Layout Verify	Sun	Dracula	Cadence	
Analog SIM	Sun	Hspice	Meta Software	Level 28

ASIC Design Flow



SAMSUNG SEMICONDUCTOR SALES OFFICES - U.S.A.

Northwest

3655 North First Street
San Jose, CA 95134
Tel: (408) 954-7000
Fax: (408) 954-7883

North Central

300 Park Boulevard
Suite 210
Itasca, IL 60143-2636
Tel: (708) 775-1050
Fax: (708) 775-1058

Northeast

119 Russell Street
Littleton, MA 01460
Tel: (508) 486-0700
Fax: (508) 486-8209

Southwest

16253 Laguna Canyon Road
Suite 100
Irvine, CA 92718
Tel: (714) 753-7530
Fax: (714) 753-7544

South Central

15851 Dallas Parkway
Suite 410
Dallas, TX 75248-3307
Tel: (214) 770-7970
Fax: (214) 770-7971

Southeast

802 Greenvalley Road
Suite 204
Greensboro, NC 27408
Tel: (910) 370-1600
Fax: (910) 370-1633

SAMSUNG SEMICONDUCTOR REPRESENTATIVES - U.S.A.

State	City	Representative	Telephone Number	Fax Number
Alabama	Huntsville	Southern Component Sales	(205) 533-6500	(205) 533-6578
Arizona	Phoenix	O'Donnell Associates	(602) 944-9542	(602) 861-2615
	Tucson	O'Donnell Associates	(602) 797-2047	(602) 797-2047
California	Calabasas	Westar Rep Company	(818) 880-0594	(818) 880-5013
	Irvine	Westar Rep Company	(714) 453-7900	(714) 453-7930
	Santa Clara	I-Squared	(408) 988-3400	(408) 988-2079
	San Diego	Bestronics	(619) 693-1111	(619) 693-1963
Canada	Kanata, Ontario	Intelatech, Inc.	(613) 762-8014	(613) 259-1370
	St. Laurent, Quebec	Intelatech, Inc.	(514) 343-4877	(514) 343-4355
	Mississauga, Ont.	Intelatech, Inc.	(905) 629-0082	(905) 629-1795
Colorado	Boulder	Front Range Marketing	(303) 443-4780	(303) 447-0371
Connecticut	(Burlington, MA)	New Tech Solutions, Inc.	(617) 229-8888	(617) 229-1614
Delaware	(Plymouth Meeting, PA)	CMS Sales & Marketing	(215) 834-6840	(215) 834-6848
Florida	Ft. Lauderdale	Dyne-A-Mark Corp.	(305) 485-3500	(305) 485-6555
	Maitland	Dyne-A-Mark Corp.	(407) 660-1661	(407) 660-9407
	Palm Bay	Dyne-A-Mark Corp.	(407) 725-7470	(407) 984-2718
	St. Petersburg	Dyne-A-Mark Corp.	(813) 345-9411	(813) 345-3731
Georgia	Norcross	SACS	(404) 447-6154	(404) 447-6714
Illinois	Arlington Heights	Davix International Ltd.	(708) 259-5300	(708) 259-5428
Indiana	Ft. Wayne	Gen II Marketing, Inc.	(219) 436-4485	(219) 436-1977
	Carmel	Gen II Marketing, Inc.	(317) 848-3083	(317) 848-1264
Iowa	Marion	AEM	(319) 377-1129	(319) 377-1539
Kansas	Lenexa	AEM	(913) 888-0022	(913) 888-4848
Kentucky	Louisville	Gen II Marketing, Inc.	(502) 894-9903	(502) 893-2435

SAMSUNG SEMICONDUCTOR REPRESENTATIVES (Continued)

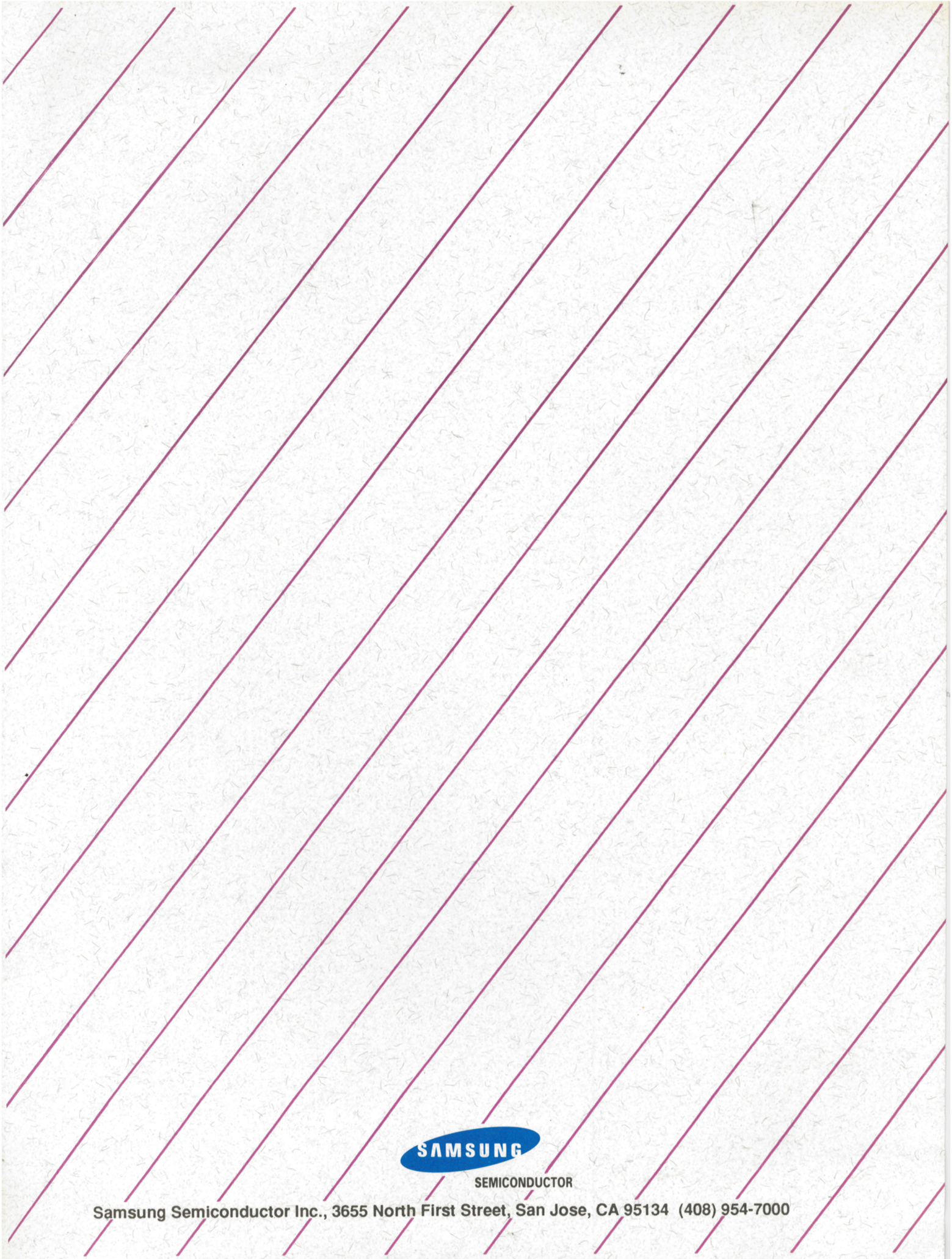
State	City	Representative	Telephone Number	Fax Number
Maryland	(Raleigh, NC)	SACS	(919) 859-9970	(919) 859-9974
Massachusetts	Burlington	New Tech Solution, Inc.	(617) 229-8888	(617) 229-1614
Michigan	Plymouth	Micro Tech Sales, Inc.	(313) 459-0200	(313) 459-0232
Minnesota	Edina	G.P. Sales, Inc.d	(612) 831-2362	(612) 831-2619
Missouri	Bridgeton	AEM	(314) 298-9900	(314) 298-8660
New York	Apalachin	T-Squared	(607) 625-3983	(607) 625-5294
	Cicero	T-Squared	(315) 699-1559	(315) 699-1705
	Plainview	NECCO	(516) 349-1600	(516) 349-1343
	Victor	T-Squared	(716) 924-9101	(716) 924-4946
North Carolina	Charlotte	SACS	(704) 525-0510	(704) 525-9714
	Raleigh	SACS	(919) 859-9970	(919) 859-9974
Ohio	Brunswick	J.N. Bailey & Associates	(216) 273-3798	(216) 225-1461
	Columbus	J.N. Bailey & Associates	(614) 262-7274	(614) 262-0384
	New Lebanon	J.N. Bailey & Associates	(513) 687-1325	(513) 687-2930
Oregon	Beaverton	ATMI	(503) 643-8307	(503) 643-4364
Pennsylvania	Plymouth Meeting	CMS Sales & Marketing	(215) 834-6840	(215) 834-6848
Puerto Rico	Bajos	Digit-Tech	(809) 892-4260	(809) 892-3366
Texas	Austin	Veilock Associates	(512) 345-8498	(512) 346-4037
	El Paso	O'Donnell Associates	(915) 778-2581	(915) 778-6429
	Houston	Vielock Associates	(713) 974-3287	(713) 974-3289
	Plano	Vielock Associates	(214) 881-1940	(214) 423-8556
Utah	Murray	Front Range Marketing	(801) 288-2500	(801) 288-2505
Virginia	(Plymouth Meeting, PA)	CMS Sales & Marketing	(215) 834-6840	(215) 834-6848
Washington	Redmond	ATMI	(206) 869-7636	(206) 869-9841
Wisconsin	Menomonee Falls	Davix International Ltd.	(414) 255-1600	(414) 255-1863

SAMSUNG SEMICONDUCTOR DISTRIBUTORS (U.S.A.)

State	City	Distributor	Telephone Number	Fax Number
Alabama	Huntsville	All American	(205) 837-1555 (800) 382-5303	(205) 837-7733
Arizona	Scottsdale	Added Value	(602) 951-9788	(602) 951-4182
California	Irvine	All American	(714) 453-1945 (800) 453-1947	(714) 453-8860
	San Diego	Added Value	(619) 558-8890	(619) 558-3018
	San Diego	All American	(619) 458-5850 (800) 382-3441	(619) 458-5866
	San Jose	All American	(408) 441-1300 (800) 222-6001	(408) 437-8970
	San Jose	Jaco	(408) 432-9290	(408) 432-9298
	Torrance	All American	(310) 320-0240 (800) 831-8300	(310) 320-7207
	Tustin	Added Value	(714) 259-8258	(714) 259-0828
	Tustin	Jaco	(714) 258-9003	(714) 258-1909
	Westlake Village	Jaco	(805) 495-9998 (800) 266-1282	(805) 494-3864
Canada	Calgary, Alberta	Active	(403) 235-5300	(403) 248-0750
	Edmonton, Alberta	Active	(403) 438-5888	(403) 434-0812
	Mississauga, Ontario	Active	(416) 238-8825	(416) 238-2817
	Montreal, Quebec	Active	(514) 731-7441	(514) 731-0129
	Montreal, Quebec	Active	(514) 256-7538	(514) 256-4890
	Ottawa, Ontario	Active	(613) 728-7900	(613) 728-3586
	Point Claire, Quebec	Active	(514) 694-7710	(514) 697-8112
	Ste-Foy, Quebec	Active	(418) 682-5775	(418) 682-8303
	Toronto, Ontario	Active	(416) 367-2911	(416) 367-4706
	Winnepeg, Manitoba	Active	(204) 786-3075	(204) 783-8133
Colorado	Aurora	QPS	(303) 343-9260	(303) 343-3051
	Wheat Ridge	Added Value	(303) 422-1701	(303) 422-2529
Florida	Boca Raton	Jaco	(407) 241-7943	(407) 241-7950
	Miami	All American	(305) 621-8282	(305) 620-7831
	Sunrise	All American	(305) 572-7999 (800) 327-6237	(305) 749-9229
Illinois	Lisle	All American	(708) 852-7707 (800) 852-7706	(708) 852-0263
	Schaumburg	QPS	(708) 884-6620	(708) 884-7573

SAMSUNG SEMICONDUCTOR DISTRIBUTORS (Continued)

State	City	Distributor	Telephone Number	Fax Number
Maryland	Columbia	Jaco	(410) 995-6620	(410) 995-6032
	Rockville	All American	(301) 251-1205 (800) 426-0420	(301) 251-8574
Massachusets	Tewksbury	Jaco	(508) 640-0010	(508) 640-0755
	Bedford	All American	(617) 275-8888 (800) 874-2834	(617) 275-1982
Minnesota	Eden Prairie	All American	(612) 944-2151 (800) 342-7364	(612) 944-9803
New Jersey	Mt. Laurel	All American	(609) 273-6975 (800) 874-2830	(609) 273-6913
New York	Hauppauge	Jaco	(516) 273-5500	(516) 273-5506
	Hauppauge	All American	(516) 434-9000 (800) 874-2830	(516) 434-9394
North Carolina	Raleigh	Jaco	(919) 876-7767	(919) 876-6964
Oregon	Beaverton	All American	(503) 531-3333 (800) 531-3334	(503) 531-3695
Pennsylvania	Philadelphia	All American (NJ)	(609) 273-6975 (800) 874-2830	(609) 273-6913
Texas	Austin	Jaco	(512) 835-0220	(512) 339-9252
	Austin	All American	(512) 335-2280 (800) 335-2280	(512) 335-2282
	Houston	All American	(713) 777-3394 (800) 778-3394	(713) 777-3397
	Richardson	Jaco	(214) 234-5565	(214) 238-7066
	Richardson	All American	(214) 231-5300 (800) 541-1435	(214) 437-0353
Utah	Stafford	Jaco	(713) 240-2255	(713) 240-6988
	Salt Lake City	All American	(801) 261-4210 (800) 682-8313	(801) 261-3885
	West Valley City	Added Value	(801) 975-9500	(801) 977-0245



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